



ACQUISITION,
TECHNOLOGY
AND LOGISTICS

THE UNDER SECRETARY OF DEFENSE

3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

JUL 9 2004

The Honorable Duncan Hunter
Chairman, Committee on Armed Services
United States House of Representatives
Washington, DC 20515-6035

Dear Mr. Chairman:

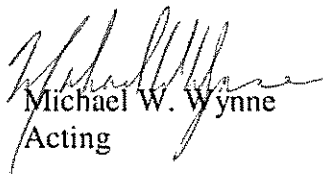
The Defense Acquisition Challenge Program (DACP) is a direct result of recent Congressional initiatives in the pursuit of acquisition excellence. DACP allows acquisition programs to consider emerging innovative and cost-saving technologies by providing funds to test and evaluate selected technologies to ensure the warfighter is equipped with the best available. DACP also provides an avenue for U.S. businesses to participate with the DoD that may not exist without DACP funding.

In accordance with 10 U.S.C. 2359b(i), this letter notifies Congress of the significant year for the Challenge Program. After a thorough review and evaluation process was completed, 29 proposals were approved as new start projects: 19 FY2003 and 10 for FY2004, and were funded for a total \$31 million in FY03 and FY04. Seven projects are funded for the Army, six Navy, five Air Force, seven U.S. Special Operations Command, and four Marine Corps. Two projects were jointly sponsored and one involves all services.

The projects were reviewed within the Army, Navy, Air Force, Marine Corps, U.S. Special Operations Command and the Office of the Under Secretary of Defense to ensure that they would increase some or all of the following areas: performance, affordability, manufacturability, or operational capability at the component, subsystem, or system level of an acquisition program. A summary of each project is enclosed in the report.

A similar letter has been sent to the Speaker of the House, President of the Senate, Committees on Appropriations of the Senate and House of Representatives, and the Committee on Armed Services of the Senate.

Sincerely,


Michael W. Wynne
Acting

Enclosure:
As Stated

cc:
The Honorable Ike Skelton
Ranking Member





FIRST ANNUAL REPORT TO CONGRESS:

Defense Acquisition

Challenge Program

Fiscal Year 2003

March 2004

Deputy Under Secretary of Defense
(Advanced Systems and Concepts)

FOREWORD

The Defense Acquisition Challenge Program (DACP) is an exciting pilot program that was authorized by Congress under the authority of Title 10 of United States Code, section 2359b in 2003. DACP has been established to provide opportunities for the increased introduction of innovative and cost-savings technology or products into existing Department of Defense (DOD) acquisition programs. The Defense Acquisition Challenge Program provides any person or activity within or outside the DOD the opportunity to propose alternatives, known as "Challenge Proposals," at the component, subsystem, or system level of an existing DOD acquisition program that would result in improvements in performance, affordability, manufacturability, or operational capability of that acquisition program.

Industry, DOD activities and Military Services submitted 304 initial proposals in response to the DACP Broad Agency Announcement (BAA) issued in March 2003. The submitted proposals were reviewed by an OSD-level panel of highly qualified engineers and scientists. After an extensive review, the panel selected 83 proposals for a full review and evaluation. After the full review and evaluation process was completed for FY03 and FY04, 29 proposals were approved for funding: 19 FY2003 and 10 for FY2004 for a total \$30.9 million in FY2003 and FY2004 funds.

I am pleased to submit this report on the success of the congressionally directed Defense Acquisition Challenge Program over the past 12 months. As you will see from this report, the Defense Acquisition Challenge Program holds great promise in transitioning innovative, leading-edge technologies to the warfighter and in helping domestic industry enter into current DoD acquisition programs.



Sue C. Payton
Deputy Under Secretary of Defense
Advanced Systems & Concepts

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OVERVIEW OF THE DEFENSE ACQUISITION CHALLENGE PROGRAM (DACP)

Defense Acquisition Challenge Program (DACP) allows Department of Defense (DoD) acquisition programs to respond to emerging technologies by providing funds for the test and evaluation of technologies and products that have the potential to improve current acquisition programs at the component, subcomponent, or system level. Direction and oversight of DACP is provided by DUSD Advanced Systems and Concepts (AS&C)/Acquisition Technology and Logistics. DACP is managed and executed by the Comparative Test Office (CTO).

DACP has a one-year proposal selection cycle initiated with a published Broad Agency Announcement (BAA) for summary proposals and culminating with final proposals submitted by program managers to compete for funding. OSD Comparative Test Office evaluates and prioritizes candidate proposals for funding with highest priority given to proposals that demonstrate a commitment to procure should testing be successful. The sponsoring organization conducts the technology/project evaluation and procures those items that meet their requirement.

Expected benefits of DACP are increased opportunities for domestic vendors to enter the DoD acquisition process and the insertion of innovative and cost-saving technologies into current DoD acquisition programs at the component, subsystem, or system level. There is the additional DoD/National Security benefit of an expanded industrial base for defense acquisition.

DACP ACHIEVEMENTS

DACP was assigned to OSD DUSD (AT&L)/CTO in March 2003 and within nine months of establishment, the Comparative Testing Office took DACP from legislation to contracted testing of products. CTO established the e-business processes necessary to manage proposal submissions in response to the BAA, proposal evaluation, project status notification to submitters and program managers, and project management. CTO used existing Service CTO infrastructure and successful business practices from the well-established Foreign Comparative Test Program for transitioning technologies to create a successful environment for DACP. DACP initially funded 29 projects covering a broad range of technologies that meet an array of warfighter needs for the Services and U.S. Special Operations Command. The DACP Program and selected technologies:

- Improve and introduce new operational capabilities
- Provide leading edge/leap-ahead technologies with cross cutting applications
- Create opportunities for U.S. industry teaming and production
- Help bridge technology gap for DoD acquisition programs
- Facilitate rapid fielding of critical equipment
- Have a goal of cost savings
- Reduce risk of technology insertion to acquisition programs
- Reduce risk in major U.S. development programs

DACP's focus on a clear path to procurement quickly puts needed equipment into the hands of America's warfighters. The importance of responding rapidly to our nation's immediate warfighting and peacekeeping requirements has remained the central concern of DUSD (AT&L)/CTO.

DACP technologies will exploit Operation Iraqi Freedom, such as Spray Cool™ for electronics for Counter Sniper detection this summer. These will help critical operational needs identified from OIF lessons learned, such as automated planning for communications systems. Other technologies will save lives and increase and improve operational support.

Participation in DACP

Response from U.S. vendors/industry and DoD acquisition programs to DACP was exceptional for a first year. Participation in the inaugural year demonstrated a clear need from both government and industry for an avenue to consider emerging technologies without risking discretionary program research and development funds. The Broad Agency Announcement was initiated March 17, 2003, with the following results:

- 304 Summary Proposals submitted by industry and government organizations with proposed technologies and products ranging from studies to near off-the-shelf capabilities
- Approximately 100 rejected due to administration error (incomplete) or duplication
- Proposals were evaluated and prioritized based on potential
- 125 Summary Proposals matched to acquisition programs of record that could benefit
- 99 Summary Proposals were evaluated by Programs of Record
- 91 Summary Proposals were “adopted” by Programs of Record
- 84 Final Proposals were submitted by Programs of Record to compete for funding:
 - 19 FY03 New Start Projects initiated in August 2003
 - 10 FY04 New Start Projects initiated in November 2004
- **Total of approximately \$ 31 million in FY03 and FY04 funding**

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DACP ACHIEVEMENTS

The Services and U.S. Special Operations Command initiated 29 projects under the DACP Program since its inception in 2003. The DACP promises to:

- Facilitate rapid fielding of critical equipment
- Generate operational cost savings
- Improve or introduce new operational capabilities
- Reduce acquisition costs by avoiding new-start developments
- Reduce risk in major U.S. development programs
- Create opportunity for industry teaming and production in the U.S.

♦ Rapid Fielding of Critical Items

The DACP has the ability to test, evaluate, and facilitate the quick procurement of systems for use in critical missions during war and other operations, including peacekeeping and military operations in urban environments.

♦ Operational Cost Savings

Many of the items or technical processes acquired as a result of the DACP will cost less to maintain and should be more efficient than the items they replace.

♦ Improved and New Operational Capabilities for U.S. Forces

DACP works to provide items that meet an array of warfighter needs, supporting all Services and the U.S. Special Operations Command.

♦ Avoiding New-Start Development

DACP will reduce overall DoD acquisition costs by promoting the procurement of non-developmental items. The evaluation of NDI reduces expenditures for research and development. Procuring an item already in production can lower the unit procurement cost for both the U.S. and the host nation's defense.

♦ Risk Reduction in Major U.S. Development and Upgrade Programs

DACP will reduce technical, cost, and schedule risk for several major U.S. development and upgrade programs.

Leveraged existing Foreign Comparative Testing infrastructure where possible – U.S. Army, USSOCOM, NAVSEA, SPAWAR supported FY03/04 process.

Established E-business initiative for BAA within 30 days of Comparative Testing Office designation.

Received overwhelming response from Industry and Government with little marketing of DACP

♦ **DACP's that will be deployed in FY 2004:**

Common Tactical Picture Ground Mobile and Air Based Command and Control System

- Provides first-ever on the move technology for the USMC Expeditionary Fighting Vehicle (EFV)
 - Will be deployed to Iraq in fall of 04 ✓

Spray Cool™ Counter Targeting System ✓

- Spray Cool™ enables IR electronics to operate in ground vehicles in extreme harsh environments.
 - Will be deployed to Iraq in summer of 04 (OVERWATCH/STARE)

NEW FY 2003/2004 PROJECTS

Nineteen new projects were initiated in FY 2003 and are continuing. Ten new projects were selected for funding in the FY 2004 DACP. Table 1 lists these projects by sponsoring Service/U.S. Special Operations Command, with the start year indicated.

Table 1. FY2003/2004 Projects

Sponsor	Project
Army (7)	<ul style="list-style-type: none"> ✓ Transcritical CO2 Environmental Control System - 2003 ✓ Spray Cool Counter Targeting System - 2003 ✓ Dismounted Infantry Virtual Simulation for Military Operations in Urban Warfare -2003 ✓ Mini Combat Trauma Patient Simulation System - 2003 ✓ Portable Continuity of Operations Communications Applications - 2003 ✓ New Secure Version of Airborne Wireless Intercommunications System - 2003 ✓ X-Cor as a Replacement for Conventional Honeycomb - 2004
Navy (6)	<ul style="list-style-type: none"> ✓ Enhanced Optical System for Rolling Airframe Missile - 2003 ✓ Low Cost Aerogel Insulation for Shipboard Fire and Thermal Protection - 2003 ✓ Miniature Controlled Receive Pattern Antenna - 2003 ✓ Ship Hull Inspection and Harbor Security Autonomous Underwater Vehicle - 2003 ✓ Wavelength Division Multiplexing Fiber Optic Global Positioning System Anti-Jam Antenna -2003 ✓ Friction Stir Processing for Virginia Class Submarines - 2004
Marine Corps (4)	<ul style="list-style-type: none"> ✓ Mortar Plating System using Vacuum Arc Vapor Depositions Technology - 2003 ✓ Common Tactical Picture Ground Mobile and Air Based Command and Control System - 2004 ✓ SPEED QoS Planner - 2004 ✓ Automated EPLRS Planner - 2004
Air Force (5)	<ul style="list-style-type: none"> ✓ Integrated Defensive Countermeasures Alternative - 2003 ✓ Speech Recognition Technology for AWACS - 2003 ✓ "On Aircraft" Laser Additive Repair of Titanium Components - 2004 ✓ Integrated Schedule/Process for Global Hawk Spiral Development - 2004 ✓ Restore Effective Survival in Shock - 2004
USSOCOM (7)	<ul style="list-style-type: none"> ✓ Embedded Integrated Broadcast Service (IBS) Receiver (EIS) - 2003 ✓ Enhanced Gunfire Detection System - 2003 ✓ Second Generation Rail Interface System (RIS) for M4 Carbine - 2003 ✓ Enhancements for Flyaway SATCOM - 2003 ✓ Host Weapon Shock Profile Database - 2003 ✓ Precision Parachute Delivery System - 2004 ✓ Collapsible Gunstock for SOF Machine Guns - 2004

ACP Mapped to Functional Capabilities Board (FCB)

Network-Centric Operations	Command & Control	Battlespace Awareness	Force Application	Force Protection	Focused Logistics
4 Active DACPs Portable Continuity of Operations Communications Applications (ARMY) Enhancements to Flyaway SATCOM (SOCOM) Automated EPLRS Planner (USMC) SPEED QoS Planner (USMC)	2 Active DACPs Secure Version of Airborne Wireless Intercommunications System (ARMY) Common Tactical Picture Ground Mobile and Air Based Command and Control System (MC)	2 Active DACPs Embedded Integrated Broadcast Service Receiver (SOCOM) Speech Recognition Technology for AWACS (AF)	7 Active DACPs Enhanced Optical System for Rolling Airframe Missile (NAVY) Wavelength Division Multiplexing Fiber Optic GPS Anti-Jam Antenna (NAVY) Miniature Controlled Receive Pattern Antenna (NAVY) X-Cor Replacement for Conventional Honeycomb (ARMY) Collapsible Gunstock for SOF Machineguns (SOCOM) Precision Parachute Delivery System (SOCOM/Army) Spray Cool Counter Targeting System (ARMY)	7 Active DACPs Mini Combat Trauma Patient Simulation System (ARMY) Dismounted Infantry Virtual Simulation for Military Operations in Urban Warfare (ARMY) Ship Hull Inspection and Harbor Security Autonomous Underwater Vehicle (NAVY) Enhanced Gunfire Detection System (SOCOM) Integrated Defensive Countermeasures Alternative (AF) Restore Effective Survival in Shock (AF/ALL SVCs) Low Cost Aerogel Insulation for Shipboard Fire and Thermal Protection (NAVY)	7 Active DACPs Transcritical CO2 Environmental Control System (ARMY) Mortar Plating System using Vacuum Arc Vapor Deposition Technology (MARCOR) Host Weapons Shock Profile Database (SOCOM) Second Generation Rail Interface System for M4 Carlines (SOCOM) Integrated Schedule and Process for Global Hawk Spiral Development (AF) Friction Stir Processing for Virginia Class Submarines (NAVY) "On Aircraft" Laser Additive Repair of Titanium Components (AF)

FY 2003 PROJECTS

ARMY

Transcritical Carbon Dioxide (CO₂) Environmental Control System

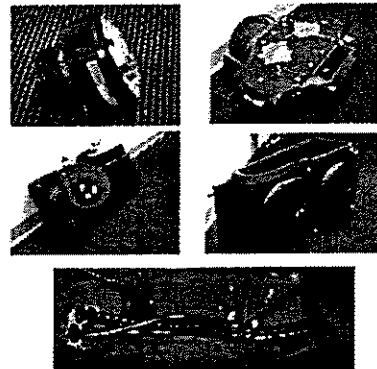
Sponsor: Army PM-Light Tactical Vehicles, PEO Combat Support and Combat Services

Vendor: Modine Manufacturing, Harrodsburg, KY

Transcritical CO₂-based Environmental Control System will provide the U.S. Army warfighter with a higher-performing cooling and heating system for Up-Armored HMMWVs and for standard HMMWVs receiving field armoring kits. Current synthetic refrigerants are more environmentally harmful and in peacetime not as efficient as CO₂. CO₂ technologies will replace current synthetic refrigerant systems with smaller size, weight, and improved efficiency systems which are vital to the legacy fleet, the Future Tactical Truck System (FTTS), and the Future Combat System (FCS). Replacing harmful synthetic refrigerants is vital to the U.S. Army to meet international environmental protocols to allow vehicles to operate worldwide. The use of CO₂ as a refrigerant is an Implementing Technology for the Reduction of Greenhouse Gas Emissions. Transitioning to CO₂ will reduce logistic footprints by eliminating costly EPA-compliant refrigerant recovery operations and associated training.

Operational benefits of CO₂ cooling versus current hydrofluorocarbon technology include:

- 25-50% greater cooling efficiency
- 10-20 degree lower outlet temperatures
- Greater pull-down temperature (inside temperature versus outside temperature)
- Cooler air 50-100 percent faster
- Weight and volume reduction
- Reduced logistical footprint by eliminating EPA-mandated hydrofluorocarbon recovery systems and associated training
- 80 percent reduction in refrigerant cost



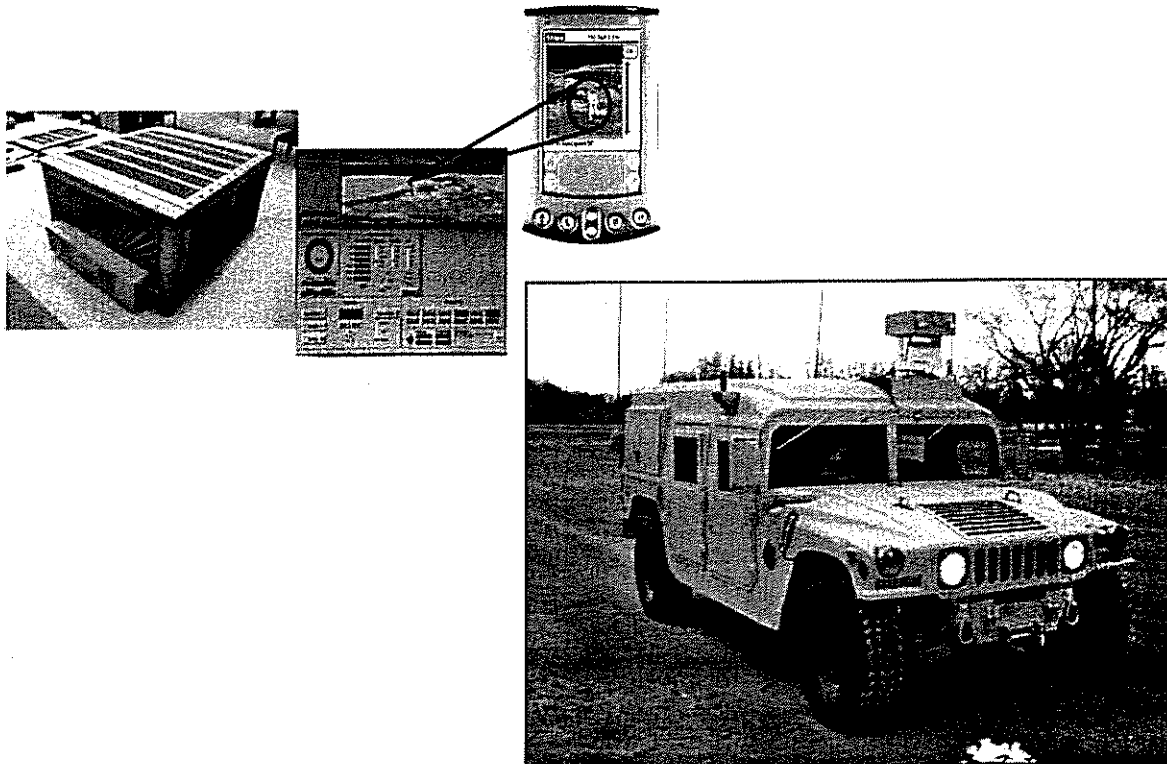
Spray Cool™ for Counter Targeting System (CTS) for Counter Sniper Detection

Sponsor: Army Intelligence and Security Command

Vendor: Isothermal Systems Research Corp., Liberty Lake, WA

This project will evaluate a new technology insertion to enable spiral development of the Counter Targeting System (CTS) for counter sniper detection. The Infra-red (IR) detection technology is a primary component of Pacific Command's Advanced Concept Technology Demonstration OVERWATCH. CTS is a Congressionally-funded risk reduction effort to develop a prototype midwave IR ordnance-detection system called Small Tactical Arms Recognition Equipment. CTS utilizes an IR sensor at high frame rates to detect sniper, mortar, RPG, and large caliber weapons fires. This system will assist in near real-time targeting and situational awareness for direct support of combat troops in operations such as Iraq and Afghanistan. CTS currently uses traditional convective cooling to cool electronic circuitry cards that operate the system sensors. Air cooling is bulky and exposes the electronics to the surrounding ambient operating conditions, thus preventing the system from operating in harsh environments of high temperature, high humidity, and dust.

Spray Cool™ technology provides weight and volume savings over traditional air cooled systems and will allow the system to operate in harsh environments of high temperature, high humidity, and dust. Spray cool encloses the electronic circuitry cards in hermetically sealed aluminum housing with a closed-loop cooling system. The cards are sprayed with a non-corrosive liquid to provide cooling; the liquid is vaporized from the circuit card heat; and the heat is transferred from the vapor across the aluminum housing. The liquid is re-cycled for another cooling cycle. Spray Cool™ technology will reduce CTS weight 80 percent, from 482 pounds to less than 100 pounds; and CTS volume 85 percent, from 17 cubic to 2 cubic feet. First test articles will be field tested in Iraq.

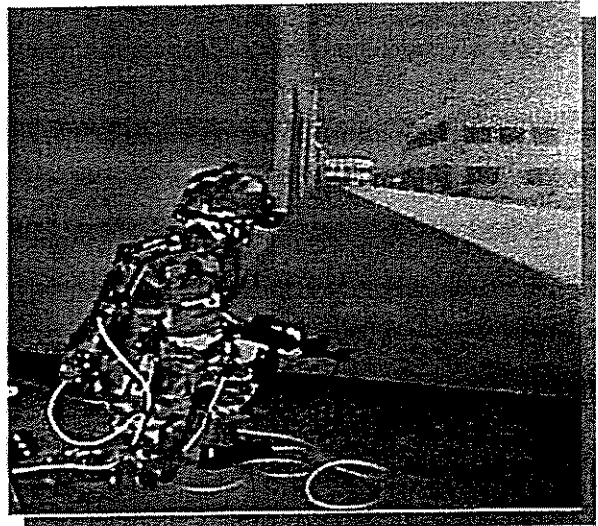


Dismounted Infantry Virtual Simulation for Military Operation in Urban Warfare (MOU)

Sponsor: Army PEO Simulation, Training and Instrumentation

Vendor: Advanced Integrated Systems, Reality by Design, Orlando, FL

This project will evaluate a virtual training system that if successful will lay the foundation for rapid technology insertion into three major acquisition programs: (1) Integrated MOU Training System (I-MTS); (2) Virtual Emergency Response Training System (VERTS); and (3) Soldier Combined Arms Tactical Trainer (Soldier CATT). This dual-use technology can be used to immerse a war fighter or emergency responder into a networked simulation, providing a training capability for homeland security, urban operations, and Weapons of Mass Destruction (WMD) detection. This capability is critical due to the ever increasing scarcity of real-life training resources, such as time, space (terrain), and funding.



Mini Combat Trauma Patient Simulation System

Sponsor: Army PEO Simulation, Training and Instrumentation

Vendor(s): Medical Education Technologies Inc., Sarasota, FL

The Mini Combat Trauma Patient Simulation (Mini-CTPS) system will meet an immediate training need for improved forward medical readiness, train for mass casualty and triage and lead to quicker assessments of battlefield casualties to increase Soldier survivability. Current operations require increased trauma and stabilization skills, autonomy due to longer evacuation times, and smaller minimal care ward footprint. Mini-CTPS is a newly developed low-cost, patient simulator with physiological models tailored for emergency medicine. Mini-CTPS will enhance portability, affordability and ease of deployment with the active forces. The system's capabilities include: simulating, replicating, and assessing battlefield injuries by type and category such as hemorrhaging, fractures, amputations, and burns; monitoring the movement of casualties on the battlefield; capturing the time of patient diagnosis and treatment; comparing interventions and outcomes at each military healthcare service delivery level.

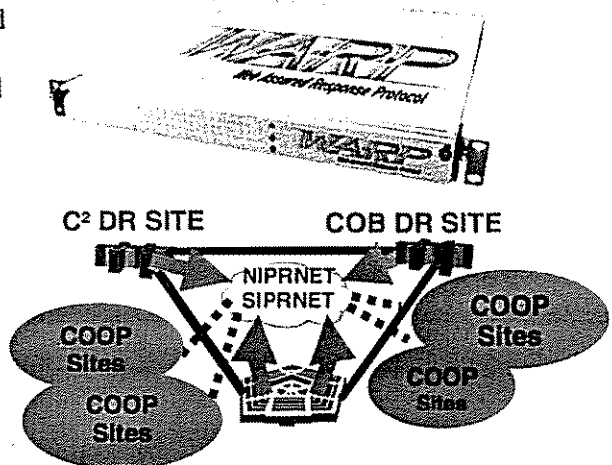


Portable Continuity of Operations Communication Appliance

Sponsor: Army Chief Information Officer/DoD COOP Integrated Network (DCIN)

Vendor: Circadence Corp., Denver, CO

Communication is critical among senior officials, essential, and secondary personnel during emergency situations where the principal operational base becomes unavailable. Web Assured Response Protocol (WARP) powers the Portable Continuity of Operations Communication Appliance (PCOCA). PCOCA has the potential to deliver data during periods of high network congestion, when traversing multiple networks, and in environments where there is extreme packet loss, high latency or enormous bandwidth contention. The WARP-powered PCOCA will provide a Continuity of Operations solution with rapid deployment that establishes communication with both the primary and back-up servers and provides seamless Quality of Service to critical users during an emergency, regardless of where they are physically located. The system provides maximum flexibility by enabling any location with appropriate network access to become a Continuity of Operations Center.

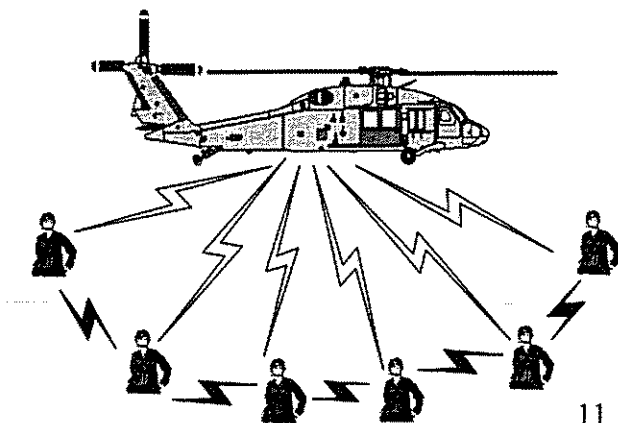


New Secure Version of Airborne Wireless Intercommunications System (AWIS)

Sponsor: Army PEO Soldier/PM Air warrior

Vendor: Telephonics Corp., Farmingdale, NY

Current unencrypted communication systems can compromise security. This project will evaluate a secure wireless intercom system, the Air Warrior baseline Aircraft Wireless Intercommunication System (AWIS), for close range communications capability for aviation operations. AWIS will be modified to include encryption via approved embedded integrated circuits and/or firmware, thus expanding usage of the intercommunication system to sensitive operating areas and providing compatibility with planned secure wireless communications systems among joint services applications. This technology has the potential to decrease risk of mission compromise, increase mission effectiveness and soldier safety, and achieve ORD objectives by eliminating interception of communication between aircrews and ground stations. The secure wireless communication system is an excellent candidate for horizontal technology insertion with joint service application.



NAVY

Enhanced Optical System for Rolling Airframe Missile (RAM)

Sponsor: Navy PEO (IWS3) RAM/CIWS Project Office

Vendor(s): Envisioneering, Alexandria, VA

Exotic Materials, Murrieta, CA

Crystal Systems, Salem, MA

Precise Surface Finishing, Murrieta, CA

Dexter Magnetic Technologies, Fremont, CA

Janos Technology, Townsend, VT

Optical Coating Corporation, Natick, MA

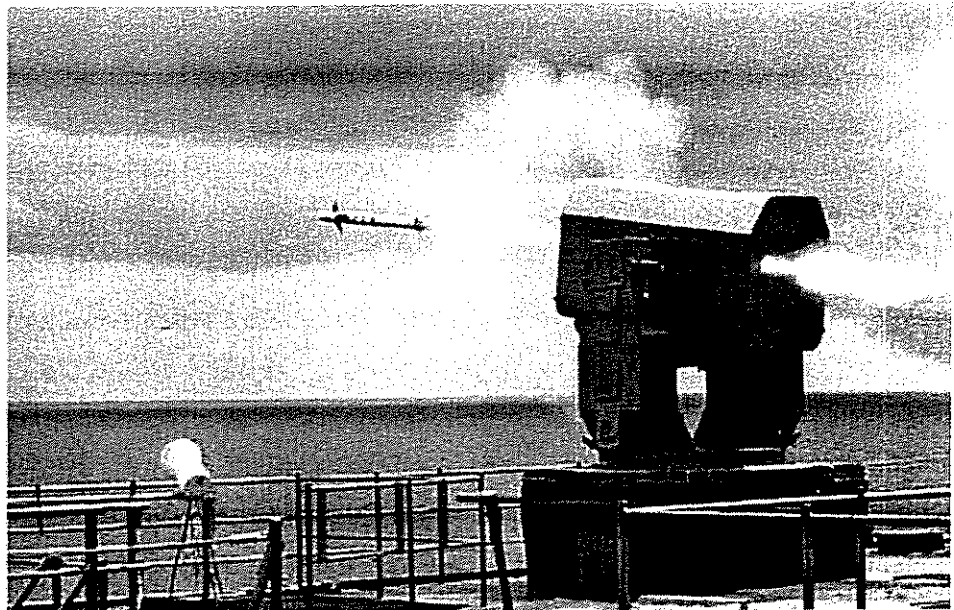
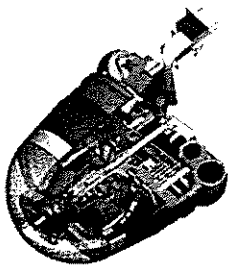
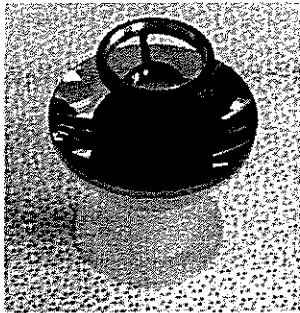
Optimum Optical Systems Inc., Camarillo, CA

Scarrott Metallurgical, Los Angeles, CA

Schmitt Measurements Systems Inc., Portland, OR

Telic Optics Inc., North Billerica, MA

Rolling Airframe Missile (RAM) is the world's premiere lightweight, quick-reaction, ship self-defense missile system. The current optical system relies on an offshore provider and uses nickel-plated titanium to refract light from the dome into the optics. Enhanced RAM will significantly improve the all-weather operational RAM capability by replacing the current optics assembly and production dome with a new sapphire dome material; aluminum polishing to mirror quality to reflect the light into the optics; and substituting the magnet design with a thinner layer. The result will be a high-performance optical assembly with improved stability that will improve performance, manufacturability, and operational capability while providing several million dollars in cost savings. Additional benefits include two manufacturing processes returned to the U.S. from offshore companies and possible benefits to other U.S. Navy, U.S. Army, and U.S. Air Force projects.

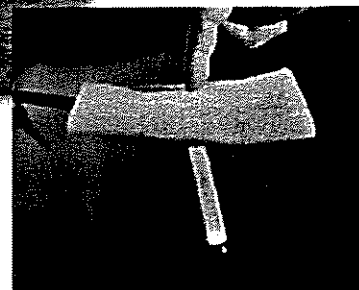
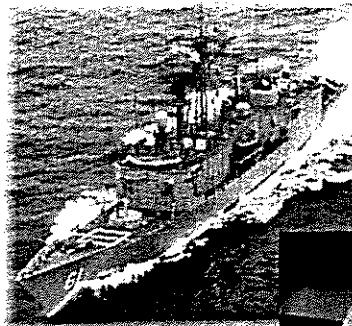


Low Cost Aerogel Insulation for Shipboard Fire and Thermal Protection

Sponsor: Navy PM for Auxiliaries, recoverability and Materials

Vendor: Aspen Aerogel, Marlborough, MA

One of the most pressing issues for next generation ship design is topside weight. With increasing demands on performance and the desire for additional weapons and electronics, there is a pressing need to reduce parasitic topside weight. This demand is in conflict with added safety and survivability specifications requiring fire protection for steel and composite structure. To meet the safety and survivability specifications, parasitic fire barrier/thermal insulation materials will be required.



The implementation of the flexible aerogel blanket as a replacement for current fire barrier technologies will have a significant impact on the weight, cost, and volume for the DD(X).

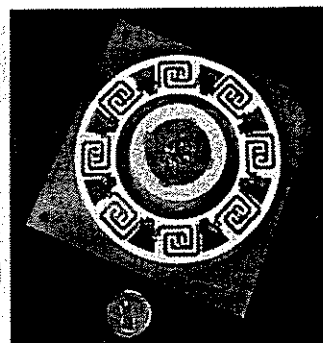
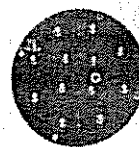
More than 300,000 square feet of fire barrier insulation is estimated for the DD(X). This technology insertion project will demonstrate a fire barrier product resulting in a 4-fold weight reduction for DD(X) while also aiding in suppression of IR signature and blast mitigation. The nano-porous aerogel-based fire barrier/thermal insulation is projected to save more than 125,000 lbs and 14,250 cubic feet per ship for DD(X) alone. If tested successfully, Aerogel would replace traditional fire barrier materials (Structogard, Dendamix) on DD(X) with additional applications for DDG, LPD-17, carriers, and submarines.

Miniature Controlled Receive Pattern Antenna (MCRPA)

Sponsor: Navy PEO C4I, PMW/PMA-169

Vendor: Titan Aerospace Electronics, Greenbelt, MD

M-CRPA provides GPS anti-jam capability for Navy platforms with size and weight restrictions for antennas. The U.S. Navy and Marine Corps currently employ GPS navigation and targeting subsystems on a major portion of their sea, air and land based weapon systems. Anti-jamming and anti-spoofing capabilities of military GPS user equipment are critical to successful mission completion in a battlefield environment. Furthermore, GPS-based navigation systems used on aircraft, ships, and submarines must be able to be protected from these threats. One approach for protection is to install nulling antennas and antenna electronics. However, some platforms requiring spatial nulling cannot support an increased antenna footprint and installation of an antenna electronics box, in particular the UH-1Y, AH-1Z helicopters and submarines. M-CRPA provides a ruggedized antenna and antenna electronics package within a small footprint, light weight, and low cost. M-CRPA will provide anti-jamming GPS capability to Navy platforms that have size and weight restrictions for antennas, such as the UH-1Y and AH-1Z helicopters and submarines.

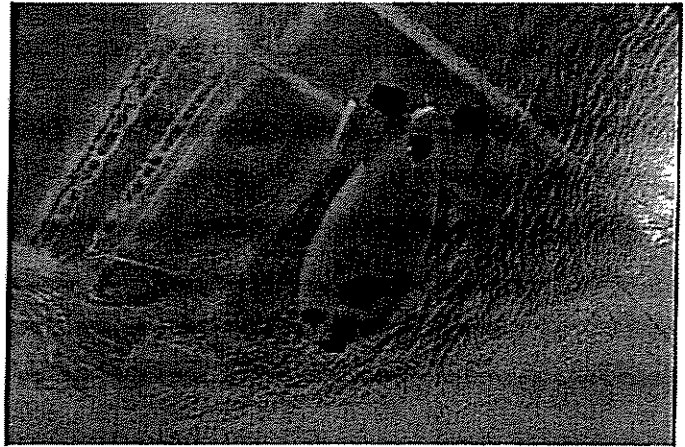


Ship Hull Inspection and Harbor Security Autonomous Underwater Vehicle

Sponsor: Navy PEO Littoral and Mine Warfare (PMS EOD)

Vendor: Lockheed Martin Perry Technologies, Riviera Beach, FL

Ship Hull Inspection and Harbor Security Unmanned Underwater Vehicle (UUV) System contains high resolution sensors to autonomously support Explosive Ordnance Disposal (EOD) and littoral mine warfare operations, expediting the search for and inspection of potentially hazardous materials. It will provide the capability to evaluate ship berthings, piers, and ship hulls for explosives or weapons of mass destruction. This system is a portable (56 inches long, 26 inches wide, 12 inches high, and 128 pounds) un-tethered UUV with unique inspection sensors, navigation capabilities, and support hardware and software, which reduce manpower requirements and risks. The system provides autonomous support for inspection of more than 90 percent of a given ship hull, thus reducing manpower requirements and risks while increasing the effectiveness in performing Force Protection and Homeland Defense missions. If successful, UUVs will result in a 450% increase in search rate and reduce risk to both divers and shipboard platforms. While the USN has the acquisition Program of Record, the US Coast Guard will closely monitor the program.



Fiber Optic for Wavelength Division Multiplexing (WDM) Global Positioning System (GPS) Anti-Jam Antenna

Sponsor: SPAWAR PEO Command, Control, Communications, Computers and Intelligence and Space (PMW/A-156)

Vendor(s): Gould Fiber Optics, Millersville, MD

Optiwork, Fremont, CA

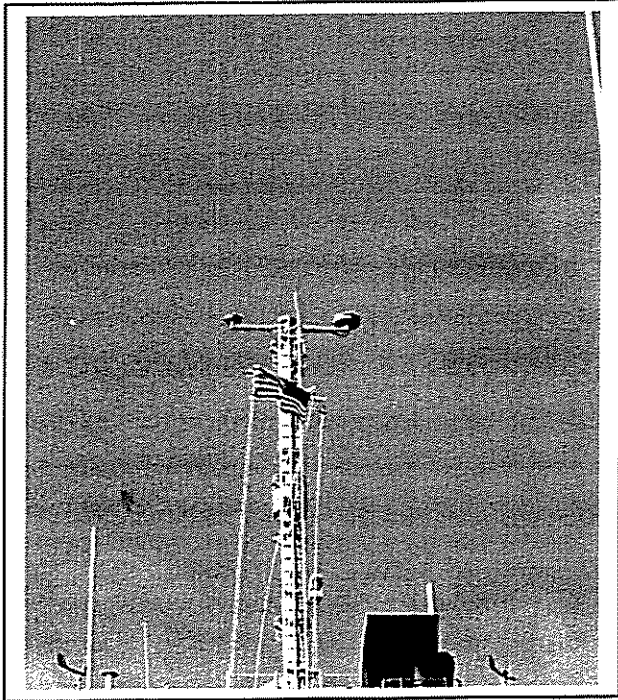
JDS Uniphase Corporation, San Jose, CA

Tempo Research, Camarillo, CA

Fiber-Span, Piscataway, NJ

Current shipboard anti-jam configurations have electronics-intensive antenna electronics (AE) installed high on the mast where it is inaccessible for maintenance in the event of an electronic failure during underway periods. Lack of ability to perform underway maintenance could result in loss of mission-critical GPS data to the platform systems and weapons dependent on GPS. The present integration concept for ships where the distance (cable run) between the antenna assembly and the GPS receiver is great (up to 700 feet) uses a fiber optic interface to send the processed GPS Radio Frequency (RF) signal in order to minimize cable losses from the antenna electronics (on yardarm) to the GPS receiver below decks.





The Wavelength Division Multiplexing (WDM) GPS Anti-Jam antenna assembly provides a capability to transmit multiple signals through a single optic fiber, enabling relocation of the GPS antenna electronics from its location on the mast to below-deck sheltered spaces where it is protected from weather and available for maintenance, upgrades, and repair. Benefits are: reduced RF cable losses, reduced topside weight, and minimized potential for electromagnetic interference. If successful, this project will enable relocation of the GPS antenna electronics from high on the mast to below decks where it is protected and readily accessible for maintenance.

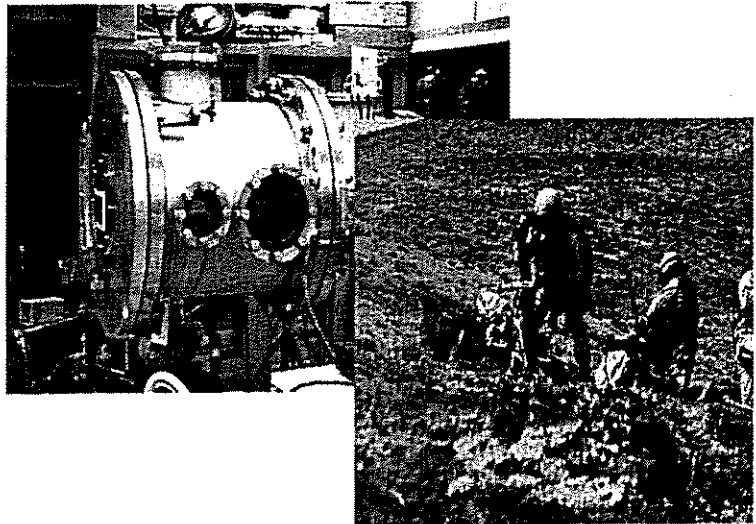
U.S. MARINE CORPS

Mortar Plating System using Vacuum Arc Vapor Deposition (VADM) Technology

Sponsor: USMC Warfighting Laboratory

Vendor: Alpen Technology Group Inc., Brownsboro, AL

This DACP project will evaluate the use of Vacuum Arc Vapor Deposition (VAVD) technology to accurately plate new material for eroded USMC 60mm and 81mm mortar tubes thus, extending the tube life. VAVD is a revolutionary new NASA-patented plating technology, resulting in a plated condition that has 100% density. It is able to rapidly plate substrate materials achieving an amorphous state, using traditional plating materials such as non-ferrous metals, black diamond or ceramic coatings and can coat a thickness as thin as 300 Angstroms. VAVD will enable



plating/coatings in many new areas where traditional processes fail. A successful project will enable the USMC to plate material in worn areas and economically restore the infantry mortar tubes to a serviceable condition, providing a more cost-effective method in restoring the mortars to combat-ready status.

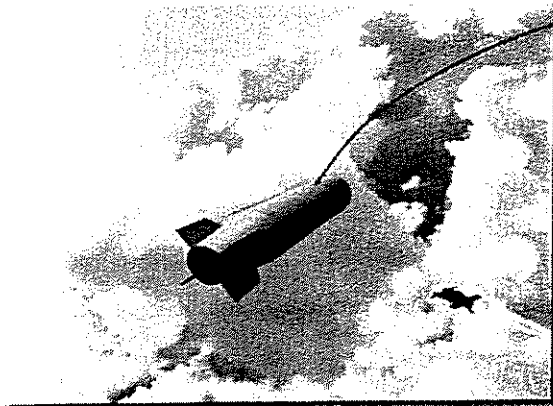
AIR FORCE

Integrated Defensive Countermeasures Alternative

Sponsor: USAF Towed Decoy Project Office

Vendor: Raytheon Space and Airborne Systems, Goleta, CA

This project will evaluate a fiber optic alternative to the towed decoy presently deployed to the warfighters. This proven technology has shown superior performance in the laboratory and requires engineering efforts to establish a qualified commodity for Air Force platforms integration and testing. Recent studies have shown this alternative Fiber Optic Towed Decoy (FOTD) technology to be very promising in expected performance, durability, and affordability. This evaluation will look at towline thermal hardening for increased resistance to heat from engine plume during deployment throughout the flight envelope. Towed flight testing will be done to ensure the FOTD deploys throughout required flight envelope and is stable and durable in tow. Testing will also be done using selected RF Countermeasure techniques to determine effectiveness.



Speech Recognition Technology for AWACS

Sponsor: USAF E-3 Airborne Warning and Control System (AWACS)

Vendor: Syntronics, Dayton, OH

Speech recognition software technology provides the operator with the ability to control and configure the Primary AWACS Display, rapidly access necessary information, and perform multiple manual functions, all with one voice command and while still keeping eyes on the primary display. This software-only solution would be integrated with the existing computing platform and requires no additional space or weight on the aircraft. Both the AWACS Prime



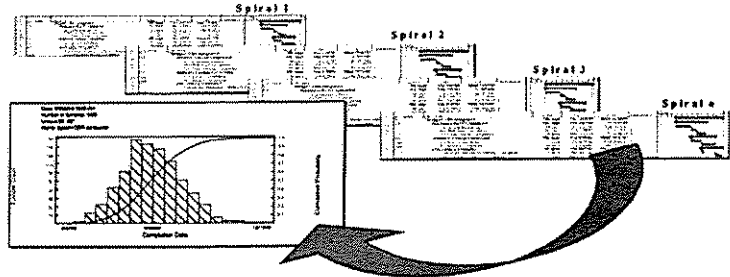
Contractor and military operators have recognized the potential use of this technology to save time, increase efficiency and reduce operator workload. Speech recognition technology has the potential to decrease operator response rate 40 percent with 97 percent accuracy, exceeding manual data entry responses and accuracy.

Integrated Schedule/Process for Global Hawk Spiral Development

Sponsor: USAF Global Hawk Program Office

Vendor: Dayton Aerospace Inc., Dayton, OH

To date neither industry nor Government program offices have developed an effective means of implementing existing integrated scheduling techniques into the spiral development process. This project will take existing off-the-shelf scheduling software applications and apply them to an untested area: multiple spirals in a spiral development program. This project will provide defense organizations a robust and disciplined process for scheduling spiral development programs. This capability does not exist today due to the complexity of multiple spirals. Off-the-shelf schedule applications will be used, combined with existing schedule development techniques, to develop a new methodology and process for integrated scheduling of spiral acquisition and development programs.



U.S. SPECIAL OPERATIONS COMMAND

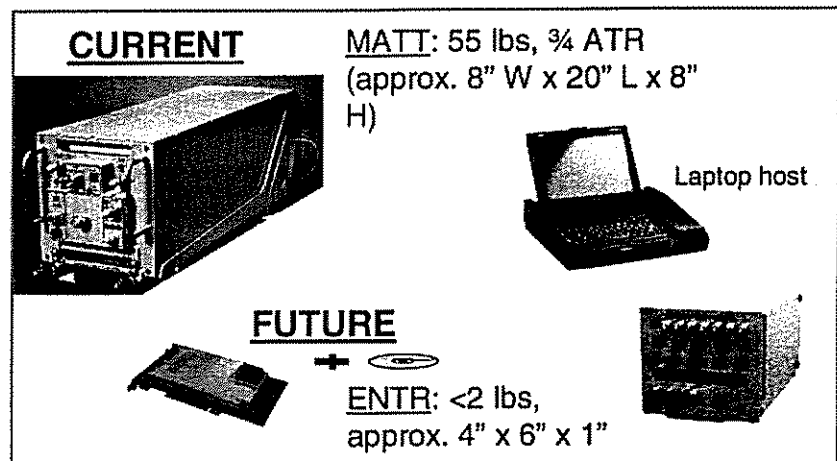
Embedded Integrated Broadcast Service (IBS) Receiver (EIR)

Sponsor: USSOCOM PEO-Information and Intelligence Systems

Vendor: L3 Communications, Telemetry West, San Diego, CA

Directly embedded into a host system, EIR will simultaneously receive, demodulate, and decrypt up to 4 independent IBS channels supporting IBS-I (TIBS), IBS-S (TDDS), and TADIXS-B. EIR will replace legacy IBS receivers, such as Multi Mission Advanced Tactical Terminal (MATT), significantly reducing the size, weight, and costs. It will provide the tactical warfighter with near-real-time, intelligence data

reception capability for situational awareness and threat detection and avoidance. Its form factor allows embedment directly into a variety of host systems (workstation, laptop, radio). This project will evaluate the next generation IBS receiver, which is smaller, lighter, and less costly than current equipment. EIR will provide timely receipt of intelligence data required by the tactical warfighter. The tactical warfighter, especially aircraft, relies heavily on near real-time intelligence information for threat avoidance, detection, targeting, blue force tracking and personnel recovery.



Enhanced Gunfire Detection System

Sponsor: USSOCOM/Army Close Combat Systems Program Office

Vendor(s): Titan Corporation, Arlington, VA

Matcom Inc., Reston, VA

FLIR Systems, North Billerica, MA

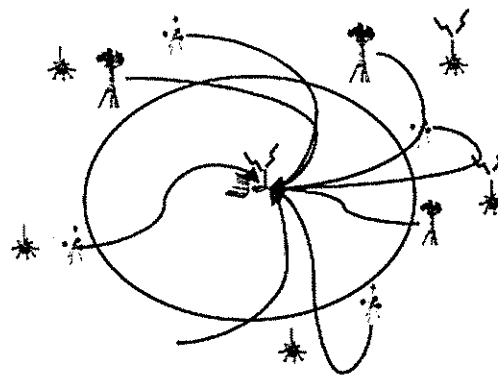
Indigo Systems, Portland, OR

Coherent Logix, Louisville, CO

Wavefront Research Inc., Bethlehem, PA

Northrup Grumman, Troy, MI

This project will evaluate system enhancements (i.e., addition of sensors and processors) which have the potential to significantly improve the accuracy of the Gunfire Detection System (GDS) and with a goal to locate a sniper prior to the sniper's first shot. This improved technology will be brought about through the integration of selected sensors in the base Gunfire Detection System and through the inclusion of automatic processing software. The set of additional sensors to be evaluated will include laser augmentation devices, hyperspectral imagers, and unattended ground sensors.

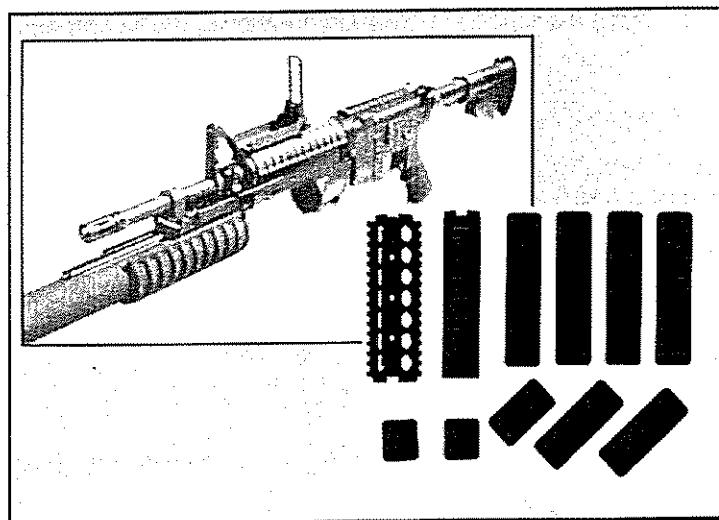


Second Generation Rail Interface System (RIS II) for M4 Carbines

Sponsor: USSOCOM Special Operations Peculiar Modifications (SOPMOD)

Multiple U.S. Vendors (Source Selection Sensitive)

The M-4 carbine as used by SOF uses a rail mount system. The existing rail mount is not as rugged as needed and loses alignment during normal use. Improved Rail Interface System (RIS) for use with Enhanced Grenade Launcher Module (EGLM) will yield improved rigidity and improved accuracy. This is a rigid or monolithic interface system to allow a free floating carbine barrel and facilitate cleaning/maintenance of the area between the carbine barrel and the body of the EGLM. This project will implement an improved design that is



more rugged, more rigid than the current interface and is easier for the field operator to maintain.

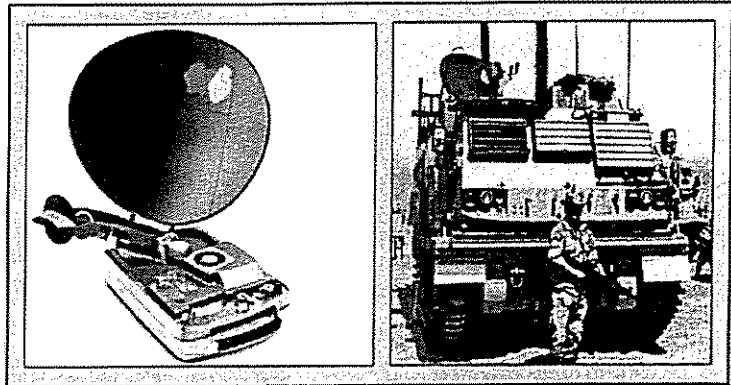
Enhancements for Flyaway SATCOM

Sponsor: USSOCOM PEO Intelligence and Information Systems/Special Projects (IIS/SP)

Vendor: SWE-DISH Satellite Systems Inc, Washington DC

Flyaway SATCOM (FASC) is a family of small, lightweight man-portable (.9m and 1.5m) satellite dishes currently capable of providing turnkey, high bandwidth, satellite communication solutions in the Ku, X and C bands.

Enhancements will allow faster worldwide deployments, Ka Band communications and higher performance. Improved tracking for inclined satellites, improved satellite acquisition using Digital Video Broadcast carrier recognition, and Built-In-Test and Training (BITT) will be implemented in the enhanced Special Operations Forces (SOF) FASC terminals. These systems have the ability to provide secure communications (live video/audio streaming, broadband transmission, and automated setup) without sacrificing the identity or location of US forces. This project will evaluate operational enhancements to SOF's Fly Away Satellite Communications (FASC) Terminals. This project, if successful, will provide critical operational enhancements to the FASC terminals enabling faster world-wide deployments, higher transmittal and reception high bandwidth/performance, ease-of-use, and Ka Band communication satellite integration.

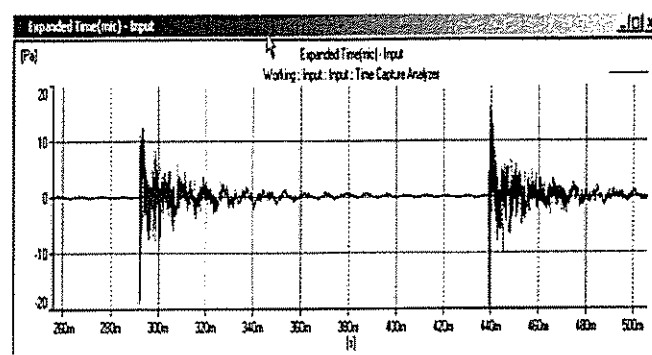


Host Weapons Shock Profile Database

Sponsor: USSOCOM Special Operations Peculiar Modifications (SOPMOD)

Vendor: Bruel and Kjaer Testing Support, Norcross, GA

In an effort to limit the costs associated with maintenance and live-testing in Developmental, Endurance Special Initiatives Testing, this project will develop a digital live-fire profile each weapon system in the Special Operations Forces arsenal. These profiles will then be replicated using electro-magnetic exciter to reproduce effects of firing those weapons when testing accessories (e.g. night vision scopes, thermal sights, etc.). Data will be collected based on operational scenarios. Use of digital profiles will significantly decrease testing and maintenance costs for USSOCOM weapon systems. This method of testing will eliminate the expenditure of ammunition and destruction of weapons and save of thousands of man-hours during future testing. This profile database will be expandable to any weapon system.



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NEW FY 2004 PROJECTS

ARMY

X-Cor as a Replacement for Conventional Honeycomb

Sponsor: Army Aviation

Vendor : Aztex, Inc., Waltham, MA

X-Cor™ is a lightweight, damage-tolerant core material that replaces conventional metal or honeycomb in aerospace structures. A 29% weight reduction and a 45-60% cost savings versus the baseline aluminum Blackhawk tail cone are estimated. Both savings are critical to Army Aviation programs. Reduced weight increases helicopter performance, particularly in vertical lift/rise capability, which greatly increases aircraft survivability and capacity. Additionally, conventional metal structures are subject to corrosion. With X-Cor, weight reduction and elimination of corrosion issues are obtained by using a truss network comprised of small-diameter composite rods. The trusses give X-Cor™ its outstanding mechanical strength and damage tolerance. The improved strength and damage capabilities, with no need for film adhesive or potting compounds, lead to the reduced structural weight and cost. The truss design can be altered from zone to zone to provide a finished sandwich structure with varying, but fixed, mechanical properties, eliminating the need for multiple-core materials and splices as seen in conventional honeycomb designs. Vertical composite rods, not potting compound as with honeycomb, may also be added to local areas of the design to achieve the high compression strength required to react bolt uploads at hard points. Since the composite rods penetrate the face-sheets, providing not only a strong bond but a mechanical lock, X-Cor™ exhibits an improved damage tolerance that will improve survivability while lowering the maintenance and life cycle costs of the structure.



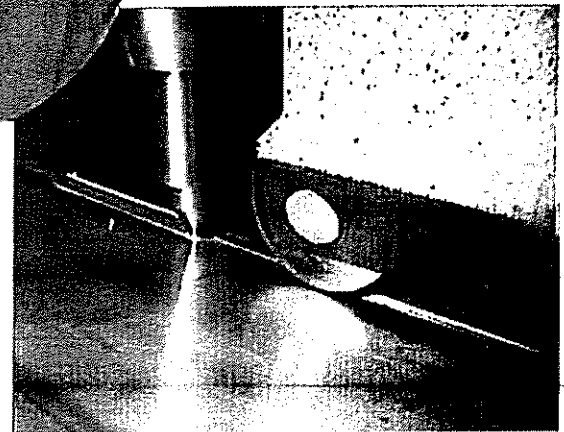
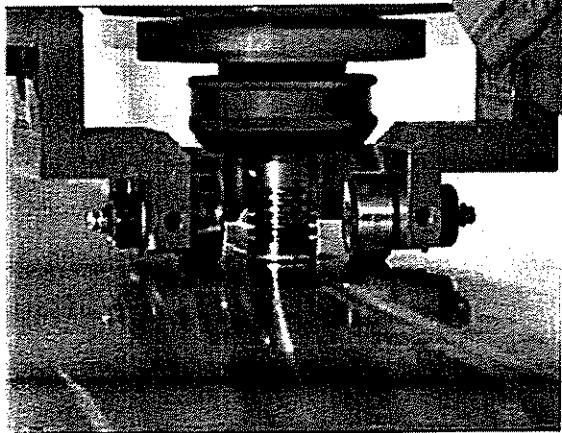
NAVY

Friction Stir Processing for Virginia Class Submarines

Sponsor: Navy PMS 450 Virginia Class Submarine Acquisition Office

**Vendor(s): General Tool Company, Cincinnati, OH,
MTS Corporation, Eden Prairie, MN**

Casting defects can limit the structural integrity of propellers due to porosity and cracks. Conventional weld repair has become a significant part of the manufacturing and repair process and is labor-intensive with no guarantee at the conclusion of the process that the propeller will be serviceable. Friction Stir Processing (FSP) allows rapid repair of surface and subsurface casting defects, improves the surface layer mechanical properties, and may substitute for conventional welding. Propeller casting time for Virginia Class Submarines may be reduced 75 percent using FSP. Friction Stir Processing is a new method to locally improve cast surface quality and strengthen nickel aluminum bronze by altering the microstructure via thermo-mechanical working. FSP will greatly improve current weld and weld repair techniques for naval propellers. If successful, substituting FSP for conventional welding will save manufacturing time and cost while increasing strength and quality of the processed area. FSP will augment the structural reliability of the propeller, ultimately improving ship availability.



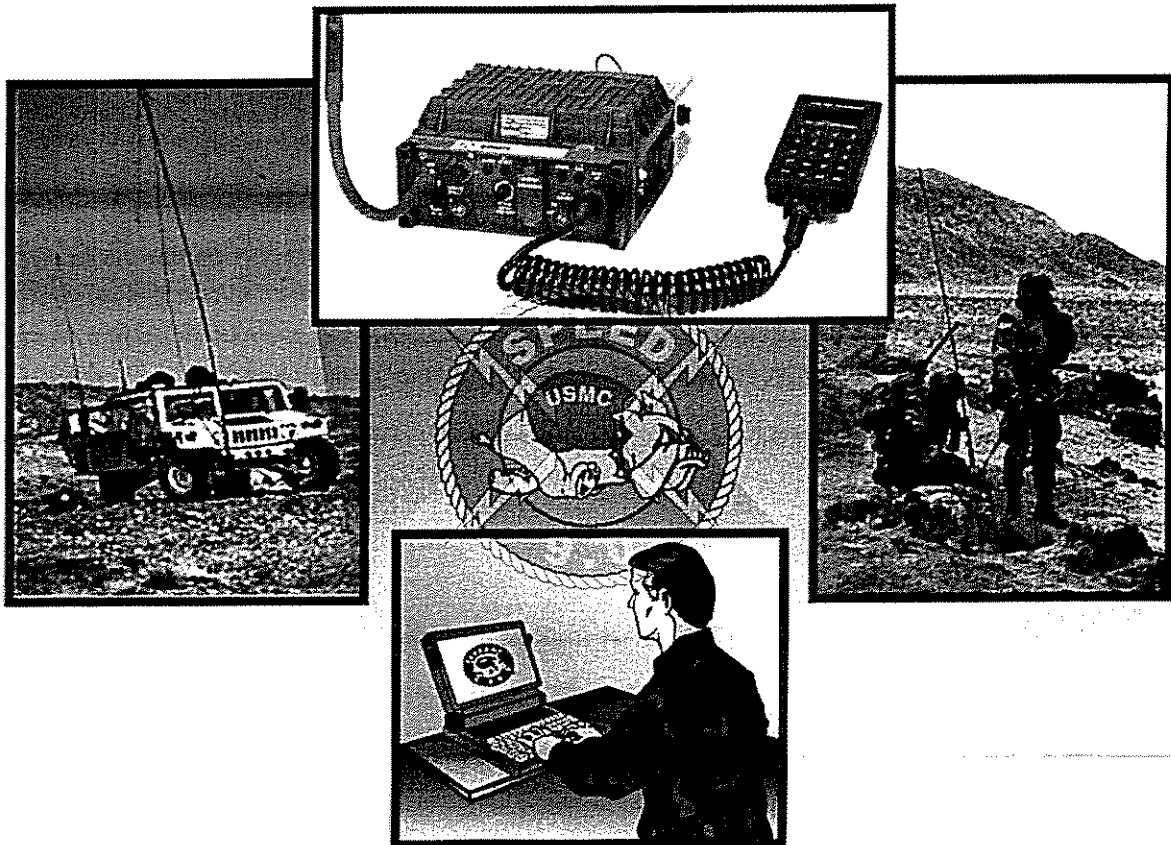
U.S. MARINE CORPS

Automated EPLRS Planner

Sponsor: USMC PM Communications

Vendor: Northrop Grumman Information Technology, Winter Park, FL

The Automated Enhanced Performance Location Reporting System (EPLRS) Planner is a "technology insertion" into the System, Planning, Engineering, and Evaluation (SPEED) software application. Based on direct reports from Iraq during Operation Iraqi Freedom, manual planning for EPLRS has reached critical time-performance and complexity limits. An integrated, automated planning system that provides EPLRS planning capability will eliminate this complexity and improve the responsiveness of the EPLRS system as a whole. This project will serve as an enhancement to SPEED and satisfy a critical USMC urgent requirement to automate planning for communications supporting the tactical data network at the Regimental unit level and below. The EPLRS family of digital radios provides a large portion of the tactical network in an operation. EPLRS radios are primarily used by the Marine Corps to provide the digital backbone for the tactical network. EPLRS network planning, which is currently done manually, is a very complex task when considering all facets of network deployment. IP addresses, logical connectivity needlines, and redundancy to ensure there are no single points of failure, are some of the significant issues to consider during EPLRS network planning. SPEED was designed to provide communicators with a standard set of tools that can be used to perform radio link engineering, which consists of network and propagation analysis studies that support a rapidly changing tactical environment. The end result of a successful evaluation is the elimination of the current system's complexity coupled with a significant improvement in the responsiveness of the EPLRS system on the joint/coalition battlefield.



Spray Cool™ for Common Tactical Picture Ground Mobile and Air Based Command and Control System

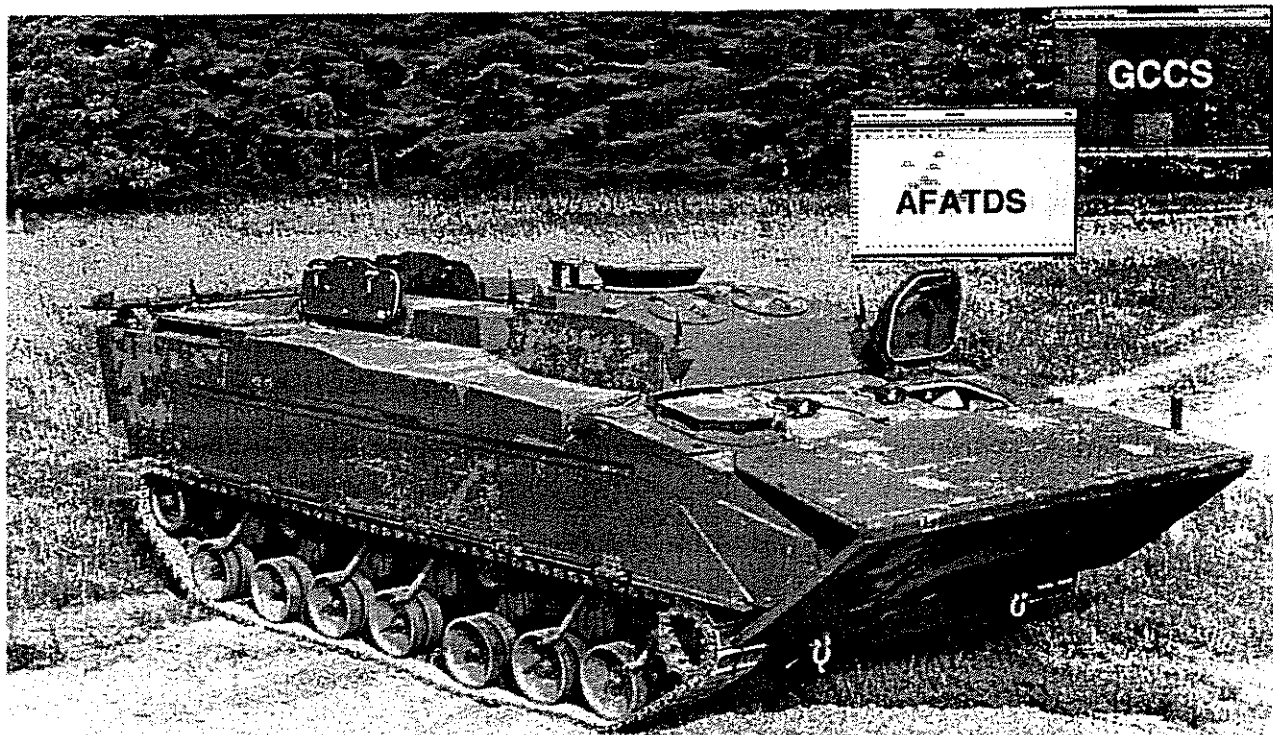
Sponsor: USMC DRPM AAA

Vendor: Isothermal Systems Inc., Clarkston, WA

This project will insert a cutting edge "spray cooling" enclosure design technology into the USMC's Expeditionary Fighting Vehicle Common Tactical Picture (CTP) system.

The Expeditionary Fighting Vehicle (EFV) Program (formerly the AAAV Program) will produce the first vehicle of its kind that will provide the Combatant Commander tactical C2 while on the move. It will allow a Commander to utilize fielded C2 software applications that ordinarily would have been limited to a static tactical operations center in a controlled environment. Ground mobile C2 has never been achieved given the extremely harsh environment (thermal, shock, vibration, immersion, etc.) in which the high-performance C2 computer hardware must survive. The traditional militarized or hardened computer hardware has always been generations behind the state-of-the-art technology that the C2 applications require. Moreover, militarized computer hardware is very expensive to procure and maintain over the life cycle of the weapons system.

Spray Cool™ will allow the insertion of COTS computer hardware into the ground vehicle platform. No other viable technical solutions enable the integration of the requisite C4I applications and their targeted computer hardware for use in the EFV. Spray Cool™ technology will be matured to enhance the capability of the C2 systems to operate in cold weather or harsh environments, to allow for the first-ever on-the-move situational awareness of blue and red forces for USMC tactical units on the joint/coalition battlefield.

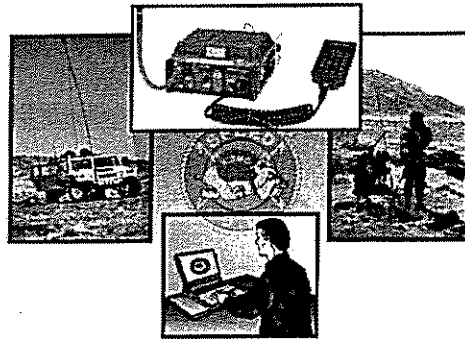


SPEED QoS Planner

Sponsor: USMC PM Communications

Vendor: Northrop Grumman Information Technology, Winter Park, FL

The System, Planning, Engineering, and Evaluation Device (SPEED) Quality of Service (QoS) Planner is a "technology insertion" into the SPEED software application. Quality of Service (QoS) refers to the capability of a network to provide better service to selected network traffic. The primary goal of QoS is to provide priority network service, including dedicated bandwidth, controlled jitter and latency (required by some real-time and interactive traffic), and improved loss characteristics. An additional



consideration is that providing priority for one or more flows does not make other flows fail. Planning and managing an effective QoS mechanism over a fixed (i.e. wired), moderately used network (such as networks in garrison) is a challenge. The project proposes to enhance the capability of radio frequency (RF) path engineering tool to ensure quality performance for networks such as the Enhanced Position Location Reporting System (EPLRS) with applicability to the Joint Tactical Radio System (JTRS). A SPEED QoS will enable the communications planner to dynamically engineer and plan networks to ensure rapid and accurate information flow and data priority on the joint/coalition battlefield.

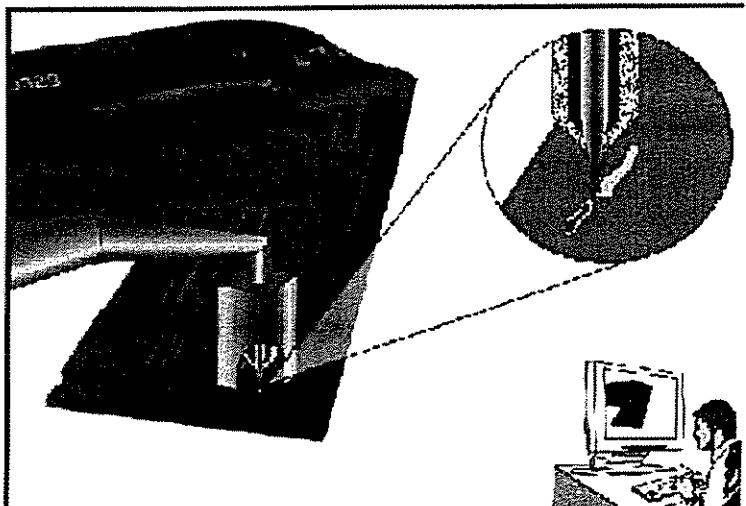
AIR FORCE

"On Aircraft" Laser Additive Repair of Titanium Components

Sponsor: USAF B-2 Systems Program Office

Vendor: Triton Systems Inc., Chelmsford, MA

This project will implement the process of Laser Additive (on Aircraft) repair of damaged titanium B-2 airframe surfaces. This technology will improve mission readiness, currently compromised by cracks which develop on the aft deck. The proposed technology insertion program will improve the maintenance of mission readiness which is currently compromised by cracks which develop on the Aft Deck. The program will be enabled by the integration of a laser head and titanium feeding mechanism with a portable, adaptive, multifunctional machine tool pod incorporating a conformal inert gas shielding shroud and the development of a comprehensive process to fill cracks with micro-welded titanium alloy to restore the stealth integrity of the damaged surfaces.



This process will enable the modification and/or repair of large basic shapes with the complex detail of a laser additive structure. Ability to execute "on aircraft" repairs will save significant schedule time and cost by eliminating the need for removal or replacement of complex parts. Maintenance schedule flexibility will be maximized and mission readiness optimized by timely repairs to surface cracks, which will extend operational lifetime and delay replacement until depot level conditioning.

Restore Effective Survival in Shock (RESUS)

Sponsor: Air Force 311 HSW, Brooks AFB, Texas

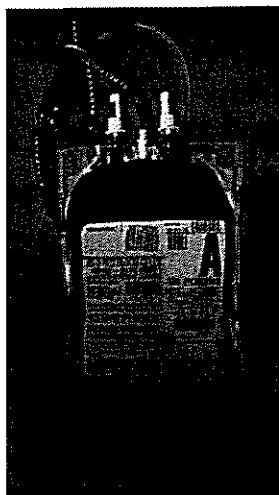
Vendor: BIOPURE Corporation, Cambridge, MA

This will be a trial of bovine polymerized hemoglobin for the pre-hospital resuscitation of casualties in hemorrhagic shock. The new product is a low-volume, low weight, room temperature stable substitute for blood transfusions. It is expected to significantly decrease combat casualty morbidity and mortality. Hemorrhage normally accounts for 60% of potentially salvageable combat casualties. Because 90% of these deaths occur prior to evacuation to a forward surgical theater, decreasing combat morbidity and mortality must focus on optimizing pre-evacuation resuscitation. Unlike older WWII and Vietnam resuscitation fluids, such as plasma, new products are effective as oxygen carriers and are highly likely to decrease hemorrhagic shock casualties, which remain at 30-100% depending on severity. The benefit of this program is that it will save lives of combat troops. Hemopure circulates directly in plasma when infused, increasing oxygen diffusion to the body's tissue and is compatible with all blood types, can be stored for 3 years without refrigeration, and is pathogen-free. Hemopure replaces blood transfusion clinical requirements, logistics, and cost. No additional medical or special training is required to administer this product.

Hemopure



Packed Red Blood Cells



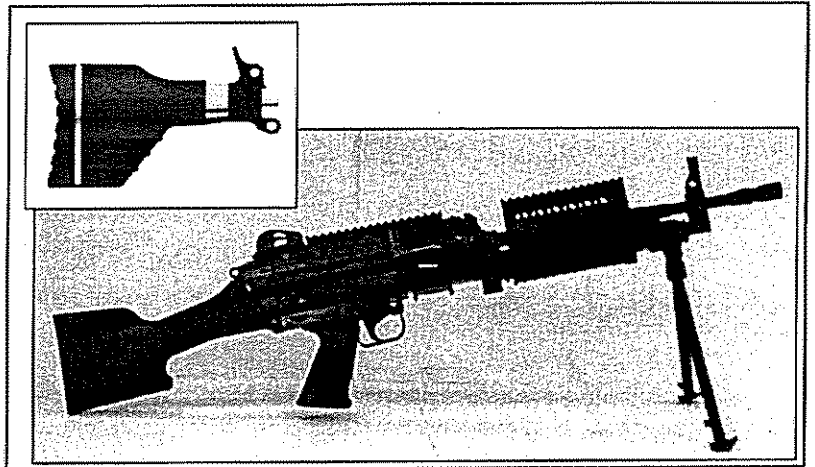
USSOCOM

Collapsible Gunstock for SOF Machine Guns

Sponsor: USSOCOM PEO-Special Programs and NAVSPECWARCOM - SEALs

Vendor: FN Manufacturing, Columbia, SC

The proposed collapsible gunstock will increase the ergonomics for the MK46 and MK49 machineguns. The adjustable stocks will provide adjustability, ambidextrous use and will allow use of a sling. Incorporation of a collapsible stock will greatly enhance the ability of the Special Operation Force Warfighter to operate in confined spaces in urban warfare operations, Close Quarters Battle and in vehicles. One stock design will interface with both MK46 and MK48, thereby, reducing the logistics burden.

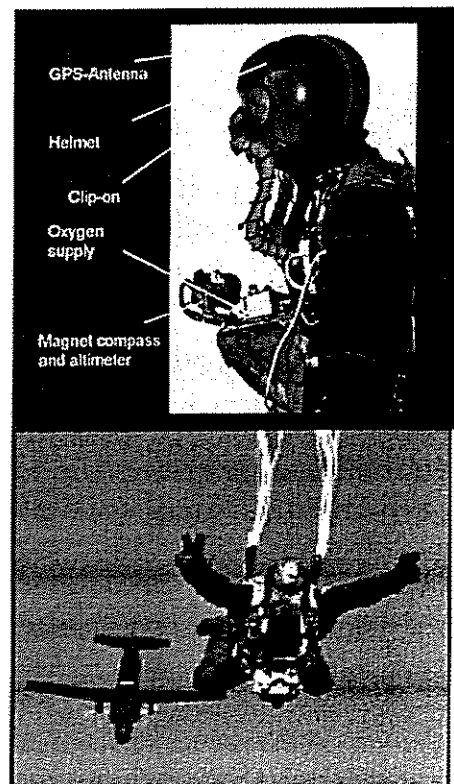


Precision Parachute Delivery System (PPDS)

Sponsor: USSOCOM PEO-Special Programs and US Army Special Operations Command

Vendor: Prescott Products, San Antonio, TX

This project will test a Precision Parachute Delivery System for use by U.S. Army and Special Operations Forces. Today, parachutists have little ability to navigate to a target unless the target is seen when exiting the aircraft. The system to be evaluated is a High Altitude-Low Opening/High Altitude-High Opening (HALO/HAHO) helmet system that includes a heads up display Navigation Aid and integrated oxygen system. This system will guide the parachutist during the descent to a precise touchdown point, giving the capability to accomplish the infiltration portion of their mission safely, accurately, and undetected in a wider range of environmental conditions. This project will also demonstrate a compact guidance, navigation and control (GN&C) system that uses global positioning system (GPS) navigation for the precision autonomous aerial delivery of re-supply bundles and airborne troops. This program provides the capability and the confidence to accomplish the aerial deployment phase of their mission safely and accurately, while minimizing detection.



DEFENSE ACQUISITION CHALLENGE LEGISLATION

H.R.4546

SEC. 243. DEFENSE ACQUISITION CHALLENGE PROGRAM.

(a) IN GENERAL.-Chapter 139 of title 10, United States Code, is amended by inserting after section 2359a (as added by section 242) the following new section:

"§ 2359b. Defense Acquisition Challenge Program

"(a) PROGRAM REQUIRED.- (1) The Secretary of Defense, acting through the Under Secretary of Defense for Acquisition, Technology, and Logistics, shall carry out a program to provide opportunities for the increased introduction of innovative and cost-saving technology in acquisition programs of the Department of Defense.

'(2) The program, to be known as the Defense Acquisition Challenge Program (hereinafter in this section referred to as the 'Challenge Program'), shall provide any person or activity within or outside the Department of Defense with the opportunity to propose alternatives, to be known as challenge proposals, at the component, subsystem, or system level of an existing Department of Defense acquisition program that would result in improvements in performance, affordability, manufacturability, or operational capability of that acquisition program.

"(b) PANELS.-The Under Secretary shall establish one or more panels of highly qualified scientists and engineers (hereinafter in this section referred to as 'Panels') to provide preliminary evaluations of challenge proposals under subsection (c).

"(c) PRELIMINARY EVALUATION BY PANELS.- (1) Under procedures prescribed by the Under Secretary, a person or activity within or outside the Department of Defense may submit challenge proposals to a Panel, through the unsolicited proposal process or in response to a broad agency announcement.

"(2) The Under Secretary shall establish procedures pursuant to which appropriate officials of the Department of Defense may identify proposals submitted through the unsolicited proposal process as challenge proposals. The procedures shall provide for the expeditious referral of such proposals to a Panel for preliminary evaluation under this subsection.

"(3) The Under Secretary shall issue on an annual basis not less than one such broad agency announcement inviting interested parties to submit challenge proposals. Such announcements may also identify particular technology areas and acquisition programs that will be given priority in the evaluation of challenge proposals.

"(4) Under procedures established by the Under Secretary, a Panel shall carry out a preliminary evaluation of each challenge proposal submitted in response to a broad agency announcement, or submitted through the unsolicited proposal process and identified

as a challenge proposal in accordance with paragraph (2), to determine each of the following:

"(A) Whether the challenge proposal has merit.

"(B) Whether the challenge proposal is likely to result in improvements in performance, affordability, manufacturability, or operational capability at the component, subsystem, or system level of an acquisition program.

(C) Whether the challenge proposal could be implemented in the acquisition program rapidly, at an acceptable cost, and without unacceptable disruption to the acquisition program.

"(5) The Under Secretary may establish procedures to ensure that the Challenge Program does not become an avenue for the repetitive submission of proposals that have been previously reviewed and found not to have merit.

"(6) If a Panel determines that a challenge proposal satisfies each of the criteria specified in paragraph (4), the person or activity submitting that challenge proposal shall be provided an opportunity to submit such challenge proposal for a full review and evaluation under subsection (d).

"(d) FULL REVIEW AND EVALUATION.-(1) Under procedures prescribed by the Under Secretary, for each challenge proposal submitted for a full review and evaluation as provided in subsection (c)(6), the office carrying out the acquisition program to which the proposal relates shall, in consultation with the prime system contractor carrying out such program, conduct a full review and evaluation of the proposal.

"(2) The full review and evaluation shall, independent of the determination of a Panel under subsection (c)(4), determine each of the matters specified in subparagraphs (A), (B), and (C) of such subsection. The full review and evaluation shall also include-

"(A) an assessment of the cost of adopting the challenge proposal and implementing it in the acquisition program; and

"(B) consideration of any intellectual property issues associated with the challenge proposal.

"(e) ACTION UPON FAVORABLE FULL REVIEW AND EVALUATION.-

(1) Under procedures prescribed by the Under Secretary, each challenge proposal determined under a full review and evaluation to satisfy each of the criteria specified in subsection (c)(4) with respect to an acquisition program shall be considered by the office carrying out the applicable acquisition program and the prime system contractor for incorporation into the acquisition program as a new technology insertion at the component, subsystem, or system level.

"(2) The Under Secretary shall encourage the adoption of each challenge proposal referred to in paragraph (1) by providing suitable incentives to the office carrying out the acquisition program and the prime system contractor carrying out such program.

"(1) ACCESS TO TECHNICAL RESOURCES.-(1) Under procedures established by the Under Secretary, the technical resources of the laboratories, research, development, and engineering centers, test and evaluation activities, and other elements of the Department may be called upon to support the activities of the Challenge Program.

"(2) Funds available to carry out this program may be used to compensate such laboratories, centers, activities, and elements for technical assistance provided to a Panel pursuant to paragraph (1).

"(g) ELIMINATION OF CONFLICTS OF INTEREST.-In carrying out each preliminary evaluation under subsection (c) and full review under subsection (d), the Under Secretary shall ensure the elimination of conflicts of interest.

"(h) LIMITATION ON USE OF FUNDS.-Funds made available for the Challenge Program may be used only for activities authorized by this section, and not for implementation of challenge proposals.

"(i) ANNUAL REPORT.-The Under Secretary shall submit an annual report on the Challenge Program to Congress. The report shall be submitted at the same time as the President submits the budget for a fiscal year to Congress under section 1105(a) of title 31, and shall cover the conduct of the Challenge Program for the preceding fiscal year. The report shall include the number and scope of challenge proposals submitted, preliminarily evaluated, subjected to full review and evaluation, and adopted. No report is required for a fiscal year in which the Challenge Program is not carried out.

"(j) TERMINATION OF AUTHORITY.-The Secretary may not carry out the Challenge Program under this section after September 30,2007."

(b) CLERICAL AMENDMENT.- The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 2359a (as added by section 242) the following new item:
"2359b. Defense Acquisition Challenge Program."

Defense Acquisition Challenge Program Participating Companies

Alabama

Alpen Technology Group, Brownsboro

California

Exotic Materials, Murrieta
Precise Surface Finishing, Murrieta
Dexter Magnetic Technologies, Fremont
Optimum Optical Systems, Camarillo
Scarrott Metallurgical, Los Angeles
Optiwork, Fremont
JDS Uniphase, San Jose
Tempo Research, Camarillo
L-3 Communications, Telemetry-West,
San Diego
Raytheon Space and Airborne, Goleta

Colorado

Circandence Corporation, Boulder
Coherent Logix, Louisville

Florida

Medical Education Technologies,
Sarasota
Advanced Integrated Systems, Reality
by Design, Orlando
Lockheed Martin Perry Technologies,
Riviera Beach
Northrop Grumman IT, Winter Park

Georgia

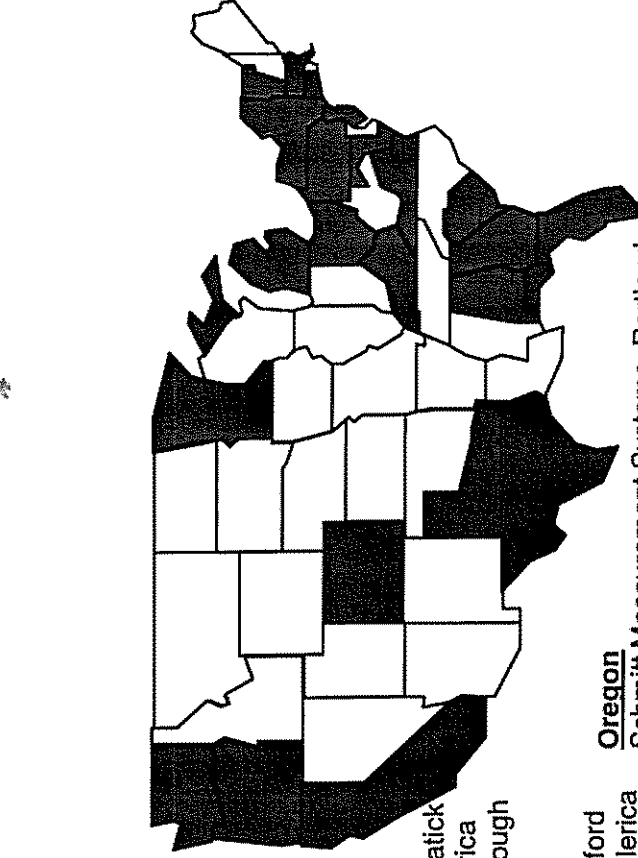
Bruel and Kjaer Testing Support,
Norcross

Kentucky

Modine Manufacturing, Harrodsburg

Maryland

Gould Fiber Optics, Millersville
Titan Corporation, Greenbelt



Massachusetts

Crystal Systems, Salem
Optical Coating Corp, Natick
Telic Optics, North Billerica
Aspen Aerogel, Marlborough
BIOPURE, Cambridge
Aztext, Waltham
Triton Systems, Chelmsford
FLIR Systems, North Billerica

Michigan

Northrop Grumman, Troy

Minnesota

MTS Corporation, Eden Prairie

New Jersey

Fiber-Span, Piscataway

New York

Telephonics Corporation,
Farmingdale

Ohio

Dayton Aerospace, Dayton
Syntronics, Dayton
General Tool Company,
Cincinnati

Oregon

Schmitt Measurement Systems, Portland
Indigo Systems, Portland

Pennsylvania

Wavefront Research, Bethlehem

South Carolina

FN Manufacturing, Columbia

Texas

Prescott Products,
San Antonio

Vermont

Janos Technology,
Townshed

Virginia

Envisioneering, Alexandria
Titan Corp, Arlington
Matcom Inc, Reston

Washington

Isothermal Systems Inc.,
Clarkston

Washington DC

SWE-dish Satellites

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

AAAV	Advanced Amphibious Assault Vehicle
AE	Antenna Electronics
AH-1Z	Attack Helicopter
AWACS	Airborne Warning and Control System
AWIS	Airborne Wireless Intercommunications System
BAA	Broad Agency Announcement
BITT	Built In Test and Training
C2	Combatant Commander
CATT	Combined Arms Tactical Trainer
CO ₂	Carbon Dioxide
COTS	Commercial Off The Shelf
CTO	Comparative Testing Office
CTP	Common Tactical Picture
CTPS	Combat Trauma Patient Simulation
CTS	Counter Targeting System
DACP	Defense Acquisition Challenge Program
DCIN	DoD Cooperative Integrated Network
DD(X)	U.S. Navy Destroyer (Class Not Yet Identified)
DDG	U.S. Navy Destroyer
DoD	Department of Defense
EFV	Expeditionary Fighting Vehicle
EGLM	Enhanced Grenade Launcher Module
EIR	Embedded Integrated Receiver
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
EPLRS	Enhanced Performance Location Reporting System
FASC	Flyaway SATCOM
FCB	Functional Capability Board
FCS	Future Combat System
FOTD	Fiber Optic Towed Decoy
FSP	Friction Stir Process
FTTS	Future Tactical truck System
FY	Fiscal Year
GDS	Gunfire Detection System
GN&C	Guidance Navigation and Control
GPS	Global Positioning System
HAHO	High Altitude High Opening
HALO	High Altitude Low Opening
HMMWV	Highly Mobile Multi-purpose Wheeled Vehicle
IBS	Integrated Broadcast Service
IBS	Integrated Broadcast Services
IIS/SP	Intelligence and Information System/Special Projects
I-MTS	Integrated MOUT Training System
IP	Information Protocol

IR	Infra-red
JTRS	Joint Tactical Radio System
LPD	U.S. Navy Amphibious Assault Ship
MATT	Mission Advanced Tactical Terminal
MCRPA	Miniature Controlled Receive Pattern Antenna
MOUT	Military Operations in Urbanized Terrain
NAVSEA	Naval Sea Systems Command
NDI	Non Developmental Item
ORD	Operational Requirements Document
OSD	Office of the Secretary of Defense
PCOCA	Portable Continuity Operations Communications Appliance
PEO	Program Executive Office
PM	Program Manager
PPDS	Precision Parachute Delivery System
QoS	Quality of Speed
RAM	Rolling Airframe Missile
RESUS	Restore Effective Survival in Shock
RF	Radio Frequency
RIS II	Rail Interface System, Second Generation
RPG	Rocket Propelled Grenade
SATCOM	Satellite Communications
SCATT	Soldier Combined Arms Tactical Trainer
SOF	Special Operating Forces
SOPMOD	USSOCOM Special Operations Peculiar Modifications
SPAWAR	Space and Warfare Systems Command
SPEED	System Planning Engineering and Evaluation
UH-1Y	Utility Helicopter
USMC	United States Marine Corps
USSOCOM	United States Special Operations Command
UUC	Unmanned Underwater Vehicle
VAVD	Vacuum Arc Vapor Deposition
VERTS	Virtual Emergency Response Training System
WAPR	Web Assured Response Protocol
WDM	Wavelength Division Multiplexing
WMD	Weapons of Mass Destruction